

PART I - ADMINISTRATIVE

Section 1. General administrative information

Title of project Implement Willamette Basin Mitigation Program	
BPA project number	9206800
Contract renewal date (mm/yyyy)	03/2000
Multiple actions? (indicate Yes or No)	Yes
Business name of agency, institution or organization requesting funding Oregon Department of Fish and Wildlife	
Business acronym (if appropriate)	ODFW
Proposal contact person or principal investigator:	
Name Mailing address City, ST Zip Phone Fax Email address	Gregory B. Sieglitz 7118 NE Vandenberg Ave. Corvallis, OR 97330 541-757-4186 541-747-4252 greg.b.sieglitz@state.or.us
NPPC Program Measure Number(s) which this project addresses 7.1, 7.6.A, 7.6.B, 7.6.C, 7.7, 7.8, 11.3.A, 11.3.D	
FWS/NMFS Biological Opinion Number(s) which this project addresses	
Other planning document references Oregon Trust Oregon Trust Agreement Planning (OTAP) Project, Assessing OTAP Project Using GAP Analysis, BPA Wildlife Mitigation Program Final EIS, BPA Watershed Management Program Final EIS, Willamette River Basin Task Force: Recommendations to Governor John Kitzhaber, Clinton Administration's Northwest Forest Plan, Interior Columbia Basin Ecosystem Management Plan: Summary of Scientific Findings, District Wildlife Management Plans, ODFW Sub-basin Fish Management Plans, CBFWA Guidelines for Enhancement, Operations, and Maintenance for Wildlife Mitigation Projects	
Short description Mitigate for hydro-electric facilities through enhancement, easement development, acquisition, restoration, and management of wetlands and other target habitat types and their respective species in the Willamette basin in Oregon. The Willamette Basin Mitigation Program will continue to provide mitigation credit to the BPA through the use of cooperative management plans, conservation easements, enhancements, restoration and acquisition activities for the 19 target wildlife species and habitats affected by the construction and inundation of the Willamette basin dams and reservoirs. Benefits to other sensitive, Threatened, Endangered and At-Risk species and habitats	
Target species All 19 Northwest Power Planning Council Fish and Wildlife Program target wildlife species in the Willamette basin. Objectives have been developed for fish species with emphasis on spring chinook	

salmon, steelhead trout, Oregon chub, bull trout, cutthroat trout, and rainbow trout. Sensitive, Threatened, Endangered, and at-risk wildlife species are target species of this Program as well

Section 2. Sorting and evaluation

Subbasin

Willamette River Subbasin and Lower Columbia Subbasin in Oregon

Evaluation Process Sort

CBFWA caucus		CBFWA eval. process		ISRP project type	
X one or more caucus		If your project fits either of these processes, X one or both		X one or more categories	
	Anadromous fish	X	Multi-year (milestone-based evaluation)		Watershed councils/model watersheds
	Resident Fish		Watershed project eval.		Information dissemination
X	Wildlife				Operation & maintenance
					New construction
					Research & monitoring
				X	Implementation & mgmt
					Wildlife habitat acquisitions

Section 3. Relationships to other Bonneville projects

Umbrella / sub-proposal relationships. List umbrella project first.

Project #	Project title/description
20550	Willamette Basin Mitigation Program Umbrella
9705906	Securing Wildlife Mitigation Sites in Oregon-McKenzie River Islands
9705907	Securing Wildlife Mitigation Sites in Oregon-E.E. Wilson WMA Additions
9705916	Securing Wildlife Mitigation Sites in Oregon-Tualatin River National Wildlife Refuge Additions
9705908	Securing Wildlife Mitigation Sites in Oregon-Multnomah Channel

Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship
None	ODFW Mainstem Umbrella Proposal	Umbrella project; explains management intent for anadromous and resident fish and wildlife in and along the mainstem Columbia and Snake rivers
95-65	Assessing Oregon Trust Agreement Using GAP Analysis	A mitigation planning tool used to analyze and rank potential mitigation projects within the basin
92-84	Oregon Trust Agreement Planning Project	A mitigation planning tool that includes methods for assembling a trust agreement and a list of potential mitigation projects
9705914	Securing Wildlife Mitigation Sites in Oregon	Project which uses above two project results for the selection of mitigation sites in Columbia and Willamette watersheds Two sub-proposals are managed under the Willamette Basin Mitigation Program
9107800	Burlington Bottoms Wildlife Mitigation Project	First mitigation site in Willamette basin Implementation, surveys and equipment shared

9205900	Amazon Basin/Eugene Wetlands	Second mitigation site in Willamette basin Implementation, surveys, information, and knowledge shared
Proposed	Assess McKenzie Watershed Habitat and Prioritize Projects	Information gathered will be shared between projects Prioritization of new areas for fish will help scoping wildlife project
9607000	McKenzie River Focus Watershed Coordination	Provides coordination, assessment, documentation, and collaboration in McKenzie watershed of project area
9405300	Bull Trout Assessment-Willamette/McKenzie	Baseline data for bull trout which will be applied to acquisition and enhancement actions in McKenzie and upper Willamette systems

Section 4. Objectives, tasks and schedules

Past accomplishments

Year	Accomplishment	Met biological objectives?
1993	Inventory western pond turtle population in confluence area	Gathered baseline data
	Produced final report	Documentation of findings
1994	Inventory western pond turtle population in remaining Willamette basin habitats	Gathered baseline data First comprehensive inventory
	Produced final report including draft conservation strategy	Population parameters and species health estimated Conservation objectives identified
1995	Radio telemetry of local confluence turtle population	Initial indications of turtle population parameters and habitat use
	Background information and inventory of potential mitigation sites	Assembled preliminary land ownership and habitat condition information
1996	Graduate project completed assembling one year of turtle telemetry and habitat data	Determined high use overwintering, foraging, nesting aquatic and terrestrial habitats
	Radio telemetry of turtle population continuation	Additional information gathered to provide adequate samples for decision making
	Begin development of partnerships on public lands	Securing public lands on which enhancement activities may occur
1997	GIS developed and Atlas of GIS data produced	System for compiling, analyzing and storing biological information
	Graduate project completed assembling two years of overwintering, nesting and population data	Biological data necessary for future acquisition and enhancement proposals
	Graduate project producing hydrologic analysis report	Gathered hydrologic data from two river systems necessary for future acquisition and enhancement proposals
	HEP sampling and report finalized	Habitat quality and quantity determined Credit for BPA-funded activities identified
	Alternative Team report finalized	Document identifying potential habitat enhancement and acquisition activities and schedules
1998	Purchase of 44 acre riparian forest and farm land	Protected riparian and wetland habitats adjacent to 2000 acre park
	Identified two new focus areas in the basin	McKenzie River and E.E. Wilson WMA acquisition objectives identified
	New partnerships developed with McKenzie River	Joint project development and implementation

	Trust and Watershed Council	to successful activities
	HEP and NEPA surveys completed on 44 acre parcel	Credit to BPA for acquisition and compliance with NEPA
1999(ongoing)	Technical Advisory Group formed	Site specific restoration plans, prescriptions, and implementation beginning
	Photo point monitoring sites were selected	Documentation of existing condition to monitor enhancement activities
	Removal of non-native vegetation	Eliminate competition with restoration activities Improve habitat quality and quantity
	Site specific Hydrologic and topographic surveys	Determine feasibility of restoration alternatives
	Begin revegetation of field on 44 acre parcel	Stabilize site, out-compete non-natives, increase habitat quantity and quality
	Finalize Pre-settlement Willamette Valley Vegetation Map	Guide to historic conditions used to develop restoration objectives
	Index to Willamette basin habitats based on hydro geomorphology	Will provide tool for selecting enhance projects most likely to succeed in meeting biological objectives

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
	Middle Fork and Coast Fork Wilamette River project area		
1	Conduct HEP and NEPA surveys on 190 acre riparian, riverine and wetland properties	a	Conduct any fish and wildlife surveys necessary to determine if modifications to planned enhancement activities are necessary
		b	Remove artificial structures preventing river flows into historic channels.
		c	Remove cattle from areas where vegetative plantings will occur
		d	Remove non-native vegetation in areas where native plant communities are desired
		e	Plant native tree species and in some cases shrubs and forbs using information derived from Objective 4 and related projects
		f	Develop partnerships include cost-sharing and identify additional funding sources for enhancement activities
2	Conduct NEPA surveys on private lands	a	Develop necessary agreements to work on private lands
		b	Coordinate and assist with Cultural Resource surveys
		c	Coordinate and assist with Hazardous Materials surveys
		d	Coordinate and assist with Threatened, Endangered, and Sensitive species surveys
		e	Evaluate potential enhancement measures

Obj 1,2,3	Objective	Task a,b,c	Task
			using Programmatic Wildlife EIS NEPA checklist
3	Conduct NEPA surveys on the 250 acres of public lands identified on the north bank of the Middle Fork Willamette River in the Alternatives Team report	a	Develop necessary agreements to work on public lands
		b	Coordinate and assist with Cultural Resource surveys
		c	Coordinate and assist with Hazardous Materials surveys
		d	Coordinate and assist with Threatened, Endangered, and Sensitive species surveys
		e	Evaluate potential enhancement measures using Programmatic Wildlife EIS NEPA checklist
4	Begin monitoring and evaluation of the results of enhancement measures	a	Continue use of photo point monitoring and quantify results
		b	Evaluate the first year success of tree and shrub species planted during FY 1999
		c	Correlate planting and cultivation methodology with vegetation survivability
		d	Correlate micro-site deviations with vegetation survivability
		e	Correlate age class and species with vegetation survivability
		f	Determine wildlife species use if any in this first year
		g	Apply any information which will improve success of Objective 1
		h	Collaborate with other related projects and share information and knowledge gained
	Upper Middle Fork Willamette River project area		
1	Conduct HEP and NEPA surveys on 190 acre riparian, riverine and wetland properties	a	Map vegetation and habitat types found on the project lands
		b	Determine species use through surveys or ancillary information
		c	Formulate HEP Team
		d	Select HEP species models based on habitat type and current or future species use
		e	Conduct HEP field sampling
		f	Compile HEP data, incorporate into the GIS and produce report
		g	Develop necessary agreements to work on private lands
		h	Coordinate and assist with Cultural Resource surveys
		I	Coordinate and assist with Hazardous Materials surveys
		j	Coordinate and assist with Threatened,

Obj 1,2,3	Objective	Task a,b,c	Task
			Endangered, and Sensitive species surveys
		k	Evaluate potential enhancement measure using Programmatic Wildlife EIS NEPA checklist
2	Begin negotiations with private landowners to secure option or conservation easement status to protect existing habitat values	a	Participate in discussions with local land trust and private landowners
		b	Develop necessary agreements to secure option or easement with objective of permanent protection for fish and wildlife
		c	Conduct site visits
		d	Evaluate the inclusion of the properties with the adjacent 800 acre state park lands
3	Develop pre-liminary habitat enhancement plan with Oregon Parks and Recreation Department, U.S. Army Corps of Engineers, and private landowners	a	Facilitate meetings with stakeholders including Oregon Parks and Recreation Department, U.S. Army Corps of Engineers, and private landowners
		b	Develop goals, objectives and preliminary strategies for habitat improvement specifically for Oregon chub, spring chinook salmon, western pond turtle and red-legged frog
		c	Produce document outlining preliminary enhancement alternatives
	McKenzie River project area		
1	Using existing species and habitat data from the FY 1999 project activities develop habitat restoration and enhancement plan	a	Identify degraded habitats and limiting factors to natural system functions
		b	Determine current use of side-channel habitats by cutthroat trout and western pond turtle
		c	c-Identify locations and enhancement measures for improving channel habitat
		d	Identify location and enhancement measures for western pond turtle nesting area(s)
		e	Select a range of alternative techniques for improving habitat conditions and removal of limiting factors
		f	Evaluate potential enhancement measures using Programmatic Wildlife EIS NEPA checklist
	Perform hydrologic analysis of property to determine feasibility and risks associated with increasing flows in island channels	a	Consult existing hydrologic data for the McKenzie River and the project area
		b	Conduct detailed elevational surveys and map key features such as upper and lower ends of channels, constrained areas, dwellings and improvements and existing wetlands
		c	Review historic data to determine periodicity

Obj 1,2,3	Objective	Task a,b,c	Task
			and frequency of inundation
		d	Evaluate potential future condition and improvement to fish and wildlife habitat
		e	Develop risk analysis
		f	Develop cost/benefit analysis
		g	Determine whether a more detailed hydrologic analysis is necessary if enhancement appears feasible
3	Implement non-native reed canary grass, scotch broom and Himalaya blackberry removal	a	Remove or discourage non-native vegetation through inundation, shading and removal by hand
		b	Where intrusions are too severe remove with equipment
		c	Evaluate the potential impact of herbicides and effectiveness of biological controls
		d	Apply herbicides if necessary
		e	Remove vectors such as roads, fill and re-vegetate disturbed areas
	E.E. Wilson WMA project area		
1	Using existing species and habitat data from the FY 1999 project activities develop habitat restoration and enhancement plan	a	Identify degraded habitats and limiting factors to natural system functions
		b	Determine current use of Soap Creek and Winter Creek and associated riparian areas by cutthroat trout, spring chinook salmon, western pond turtle and red-legged frog
		c	Identify locations and enhancement measures for improving channel habitat
		d	Identify location and enhancement measures for riparian forest areas
		e	Identify location and enhancement measures for permanent and seasonal wetlands
		f	Select a range of alternative techniques for improving habitat conditions and removal of limiting factors
		g	Evaluate potential enhancement measures using Programmatic Wildlife EIS NEPA checklist
2	Perform hydrologic analysis of property to determine feasibility and risks associated with removal of fish passage barriers including small reservoir	a	Consult existing hydrologic data for Soap Creek and Winter Creek if available
		b	Review engineering data for the reservoir and survey topography of key downstream wetland features
		c	Review historic data to determine periodicity and frequency of inundation
		d	Evaluate potential future condition and improvement to fish and wildlife habitat

Obj 1,2,3	Objective	Task a,b,c	Task
		e	Develop risk analysis
		f	Develop cost/benefit analysis
		g	Determine whether a more detailed hydrologic analysis is necessary if enhancement appears feasible
3	Prepare site and plant native tree species along riparian area of Soap Creek and Winter Creek	a	Remove non-native vegetation which will compete with planted stock
		b	Evaluate previous techniques for planting on this site and the Middle Fork and Coast Fork Willamette River project area and related projects
		c	Treat site based on information gained in Task b
		d	Set-up photo points and other monitoring techniques to evaluate success
	Muddy Creek and Mary's River confluence project area		
1	Conduct HEP and NEPA surveys on the 220 acre riparian, riverine and wetland property	a	Map vegetation and habitat types found on the project lands
1		b	Determine species use through surveys or ancillary information
1		c	Formulate HEP Team
1		d	Select HEP species models based on habitat type and current or future species use
1		e	Conduct HEP field sampling
1		f	Compile HEP data, incorporate into the GIS and produce report
1		g	Develop necessary agreements to work on private lands
1		h	Coordinate and assist with Cultural Resource surveys
1		I	Coordinate and assist with Hazardous Materials surveys
1		j	Coordinate and assist with Threatened, Endangered, and Sensitive species surveys
1		k	Evaluate potential enhancement measure using Programmatic Wildlife EIS NEPA checklist
2	Begin negotiations with private landowners to secure option or conservation easement status to protect existing habitat values	a	Participate in discussions with local land trust and private landowners
2		b	Develop necessary agreements to secure option or easement with objective of permanent protection for fish and wildlife
2		c	Conduct site visits
2		d	Evaluate the exclusion of the high value farm land and use cost savings to invest in adjacent

Obj 1,2,3	Objective	Task a,b,c	Task
			riparian properties
3	Develop pre-liminary habitat enhancement with Corvallis Greenbelt Land Trust and U.S. fish and Wildlife Service	a	Facilitate meetings with stakeholders including Corvallis Greenbelt Land Trust, U.S. Fish and Wildlife Service, and private landowners.
3		b	Develope goals, objectives and preliminary strategies for habitat improvement specifically for Oregon chub, cutthroat trout, western pond turtle, waterfowl and red-legged frog
3		c	Produce document outlining preliminary enhancement alternatives

Objective schedules and costs

Obj #	Start date mm/yyyy	End date mm/yyyy	Measurable biological objective(s)	Milestone	FY2000 Cost %
1.1	10/1999	9/2004	Increase habitat quality and quantity	XX	20%
1.2	11/1999	1/2000	Determine NEPA compliance	X	1%
1.3	01/2000	02/2000	Determine NEPA compliance	X	1%
1.4	05/2000	06/2000	M&E to be used for Adaptive Management	X	5%
2.1	03/2000	09/2000	Determine HUs	X	5%
2.2	10/1999	01/2000	Interim protection of habitat values	XX	6%
2.3	01/2000	02/2000	Evaluate potential habitat improvements	X	10%
3.1	12/1999	04/2001	Identify habitat improvements to make	X	10%
3.2	11/2000	02/2001	Feasibility of enhancement	X	15%
3.3	09/2000	11/2000	Habitat improvement	XX	20%
4.1	03/2001	06/2001	Identify habitat improvements to make	X	5%
4.2	08/1999	02/2000	Feasibility of enhancement	X	5%
4.3	08/2001	09/2001	Habitat improvement	XX	2%
5.1	11/1999	12/1999	Determine HUs	X	10%
5.2	10/1999	05/2000	Interim protection of habitat values	XX	5%
5.3	10/2000	12/2000	Assessment of improved habitat values	X	2%

Schedule constraints

Severe weather conditions, difficult negotiations with governmental agencies and landowners, new tasks proposed by BPA and inadequate funding

Completion date

Acquisition, easement and enhancement activities will be completed once the target species mitigation debt has been reduced to zero. Operation and maintenance cost are expected to continue as long as the hydropower system creates inundated wildlife habitat losses.

Section 5. Budget

FY99 project budget (BPA obligated):	\$400,000
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FY2000 budget by line item

Item	Note	% of total	FY2000 (\$)
Personnel	part-time and full-time staff		100,000
Fringe benefits	standard rate		38,000
Supplies, materials, non-expendable property	enhancement materials, supplies, and equipment		70,000
Operations & maintenance			
Capital acquisitions or improvements (e.g. land, buildings, major equip.)	Option monies for two project areas		2,000
NEPA costs	standard rate (4) project areas		10,000
Construction-related support			
PIT tags	# of tags:		
Travel			
Indirect costs			10,000
Subcontractor			
Other			
TOTAL BPA REQUESTED BUDGET			230,000

Cost sharing

Organization	Item or service provided	% total project cost (incl. BPA)	Amount (\$)
Lane County Parks	Over 2,000 acres of land, staff, and equipment	70	~2,100,000
Oregon State Parks and Recreation Department	Over 200 acres of land, staff and equipment	10	~300,000
Springfield Utility Board, City of Springfield, Willamalane Parks and Recreation Department	Over 300 acres of land and staff	13	~375,000
Others TBD		?	?
Total project cost (including BPA portion)			~3,005,000

Outyear costs

	FY2001	FY02	FY03	FY04
Total budget	200,000	3,000,000	500,000	200,000

Section 6. References

Watershed?	Reference
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X	Holland, D. C. 1994, The Western Pond Turtle: Habitat and History. U.S. Department of Energy, Bonneville Power Administration, Portland, OR. 300+ pp plus appendices.
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X	ODFW 1997b. Habitat Evaluation Procedure Results at the Confluence of the Middle Fork and Coast Fork of the Willamette River.
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X	Rogers, V.. 1997. Hydrologic Study of the Willamette River Confluence Area. Prepared for the Oregon Department of Fish and Wildlife and Oregon State University in partial fulfillment of a Master of Science Thesis.
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PART II - NARRATIVE

Section 7. Abstract

The goal of the Willamette Basin Mitigation Program is to cooperatively develop and implement measures to mitigate for wildlife habitat losses resulting from the construction of the Willamette basin federally licensed hydro-

electric dams and facilities. While implementing easements, acquisitions, management plans and enhancement activities designed to achieve the Council's mitigation target species and habitat goals maintain and improve water quality and quantity, habitat connectivity, integrity and functionality, biodiversity and overall ecosystem health. Overall Objectives: Through the use of Restorative Ecology, Conservation Biology, Landscape Ecology, and passive restoration techniques implement approximately 3-5 mitigation projects in the Willamette basin with the expected minimum gain of 200 - 500 Habitat Units (HUS) each year. These habitat "gains" will be applied to each of the hydro-electric facilities based upon habitat type and location.

Calculate baseline, actual, and future HUs through the use of HEP field sampling, GIS data collection and analysis, and other Monitoring and Evaluation techniques accepted by the Council, BPA, and CBFWA's Wildlife Working Group.

Provide information, findings, and new techniques about the program through multiple means including reports, presentations, digital data and maps, papers, and "over-the-Internet". If funded in FY 2000 these activities will continue.

Section 8. Project description

a. Technical and/or scientific background

The development of dams for hydropower, navigation, flood control, and irrigation in the Columbia River Basin resulted in inundation of riparian, riverine, wetland and upland wildlife habitats (NPPC 1994; BPA et. al., 1993). The 1980 Power Act established and charged the Northwest Power Planning Council (NWPPC) with the task of developing a comprehensive fish and wildlife mitigation program to protect, mitigate, and enhance fish and wildlife habitat in the Columbia Basin (Power Act 1980, Section 4 (H)(1)(A), page 12; NPPC 1994, Section 2, page 2-1).

In the mid to late 1980s a series of documents, known as Loss Assessments, were developed to quantify the impacts of the hydropower system to wildlife and their habitats in the Willamette River basin. The Loss Assessments were written following a series of inter-agency worksessions which applied the U.S. Fish and Wildlife Service (USFWS) Habitat Evaluation Procedures (HEP). The HEP methodology is rooted in the qualification of wildlife habitat features through physical measurements conducted in the field and with aerial photographs. The numeric value derived from these measures, called the Habitat Suitability Index (HSI), is multiplied by the number of acres in any given habitat type which a selected wildlife species may use. Habitat Units (HUs) are the product of the equation. The NWPPC and BPA adopted HEP and HUs as the methodology and currency for determining mitigation objectives for 19 terrestrial wildlife species (NPPC 1994).

In the Willamette basin there were over 94,000 HUs destroyed or compromised as a result of the construction and inundation of the eight dams and reservoirs. To date mitigation has occurred for approximately 2-3 percent of these losses. Wildlife mitigation activities will increase exponentially if this implementation proposal is funded.

Background of the project selection process and criteria follows. In 1992, the Oregon Trust Agreement Planning (OTAP) Project was initiated by the Oregon Wildlife Coalition (OWC) to create a list of potential wildlife mitigation opportunities by priority and determine the costs of mitigating for all wildlife losses in Oregon. Using Council, CBFWA and OWC criteria, this project resulted in a prioritized list of 287 potential mitigation sites and cost estimates for general habitats within the mitigation area (BPA 1993). For more information on the OTAP Project see the Oregon Wildlife Coalition's *Securing Wildlife Mitigation Sites – Oregon umbrella project proposal* (Project 9705900). The OTAP was refined in 1995 using GAP Analysis techniques. The primary goal of the project was to prioritize and depict the contribution of each proposed mitigation site to target species and habitats as well as overall biodiversity in the eco-region within which it is found. This GIS approach, based upon principles of Conservation Biology, Landscape Ecology, Island Biogeography, and Restorative Ecology, developed a series of analyses which considered the mitigation sites' contribution to existing conservation and protection measures. This technique continues to be used by the OWC in selection of new mitigation sites. Oregon wildlife managers cooperatively identified and ranked a short list of the highest priority sites and the project areas within the Willamette Basin Mitigation Program met these screens (ODFW 1997). For more information on the OWC's GAP Analysis project see the *Securing Wildlife Mitigation Sites – Oregon umbrella project proposal* (Project 9705900).

There are numerous projects and reports which have begun in the last few years which have characterized the state of the Willamette Basin natural resource features including fish and wildlife habitat. These include the Governor's Willamette River Basin Task Force Recommendations and Willamette Valley Livability Forum, Oregon's Living Landscape, U.S. Army Corps of Engineers Willamette Basin Reservoir Study, U.S. Army Corps of Engineers

Willamette River Floodplain Restoration Study, and Willamette River Restoration Study to name but a few (Defenders of Wildlife 1998, Hulse et. al. 1997, and Miller et. al. 1997). If one considers the dramatic changes to the Willamette basin's forests, rivers, wetlands and uplands (Kagan and Caicco 1992, Benner and Sedell 1997) and the fact that 70% of the state of Oregon resides within its boundaries it is not surprising to learn that many of fish and wildlife species and habitats are listed as Threatened, Endangered, Sensitive, considered at-risk, or have been extirpated (Puchy and Marshall 1993). However, there are lands which contain or have potential for restoration of key habitat features which will provide the building blocks for a strategy to conserve the very resources upon which all life depends in the Willamette basin. This program attempts to preserve some of these areas for future generations and future opportunities.

b. Rationale and significance to Regional Programs

The Willamette Basin Mitigation Program contributes to the 1994 Fish and Wildlife Program goals and objectives of achieving and *sustaining levels of habitat and species productivity* as a means of fully mitigating wildlife losses caused by construction and operation of the federal and non-federal hydroelectric system (11.1). Northwest Power Planning Council program measures 7.6.A, 7.6B, 7.6C, 7.6D, 11.3A, and 11.3D are addressed by this project. In fact, through the Oregon Trust Agreement Planning Project and Assessing Oregon Trust Agreement Planning Project the Willamette project types and locations were selected and prioritized using the following goals and principles listed in FWP Section 11.2D.1, which states, "In developing wildlife mitigation plans and projects, demonstrate to the extent to which the plans/projects comply with the following principles:"

Are the least-costly way to achieve the biological objective.

The overall goal of the NWPPC's Fish and Wildlife Program and the Willamette Basin Mitigation Program is the perpetual protection of wildlife and wildlife habitat types as mitigation for those which were lost as a result of the construction, inundation, and operation of the hydropower system. In a study comparing various mitigation methods (i.e., fee title acquisition and easements), Prose et. al. (1986) concluded that "Fee title land acquisition and subsequent management is generally more cost-effective than easements." Similarly, wildlife agency acquisition specialists have also consistently found fee title acquisition to purchase land for wildlife mitigation is usually more economical in the long-term compared with the purchase of easements (Oregon Trust Agreement Planning Project, BPA et al. 1993). Also, the biological objectives are more likely to be met without the threat of turnover of landowners or philosophies to which cooperative management plans and conservation easements are subject. However, when it is determined that biological objectives can be met without acquisition and long-term budgets can be reduced (eg. perpetual easement with cost-sharing by the NRCS under the Wetland Reserve Program) alternative means will be utilized. Enhancement and operation and maintenance activities which take place as part of the Willamette Basin Mitigation Program rely on contributions from and partnerships with many agencies and organizations. This cooperative approach serves to decrease monetary costs while increasing the likelihood of success through the solidification of shared goals and objectives.

Have measurable objectives, such as the restoration of a given number of habitat units.

Overall Objectives: Through the use of Restorative Ecology, Conservation Biology, Landscape Ecology, and passive restoration techniques implement approximately 3-5 mitigation projects in the Willamette basin with the expected minimum gain of 200 - 500 Habitat Units (HUS) each year. These habitat "gains" will be applied to each of the hydro-electric facilities based upon habitat type and location.

Calculate baseline, actual, and future HUs through the use of HEP field sampling, GIS data collection and analysis, and other Monitoring and Evaluation techniques accepted by the Council, BPA, and CBFWA's Wildlife Working Group. Objectives for individual project areas are found in the objectives section.

Protect high quality native or other habitat or species of special concern, whether at the project site or not, including endangered, threatened, or sensitive species.

The McKenzie River project area provides protection and enhancement of low elevation riparian and riverine habitat types which have been identified as limited by the McKenzie River Watershed Council. Sensitive, Threatened, and Endangered species managed for on the site include; western pond turtle, spring chinook salmon, steelhead trout, red-legged frog, bald eagle, neotropical migratory birds, and the largest Great-blue heron rookery on the river to name a few. The E.E. Wilson and Muddy Creek and Mary's River

project areas protects habitat for red-legged frog and western pond turtle. The confluence of the Middle Fork and Coast Fork Willamette river and upper Middle Fork Willamette project areas for the same species of interest as the McKenzie project area with the additions of Oregon chub and western meadowlark.

- **Provide riparian or other habitat that can benefit both fish and wildlife.**

All of the project areas in the Willamette Basin Mitigation Program were selected for the benefits they provide to fish and other wildlife. The McKenzie River project area contains mainstem river and side-channel habitats for spring chinook salmon, steelhead trout, cutthroat trout and rainbow trout. The E.E. Wilson project area includes the confluence of two streams which contain cutthroat trout and juvenile chinook salmon (seasonally). Enhancement measures include the removal or modification of a small reservoir to provide fish passage and the restoration of a ditched portion of one stream. The Muddy Creek and Mary's River confluence project area includes habitat for cutthroat trout and seasonal wetlands. The Middle Fork and Coast Fork Willamette river confluence and upper Middle Fork Willamette project areas includes habitat for Oregon chub, spring chinook salmon, steelhead trout and cutthroat trout. All project areas contain wetlands, riparian areas, and riverine habitat types which provide for a wide array of bird, mammal, and herptile species.

- **Where practical, mitigate losses in-place, in-kind.**

This project has selected project areas with an emphasis on those habitat types which either in physical condition or geographic location most closely resemble the habitat types that were affected by the hydropower system. The upper Middle Fork Willamette project area is about three river miles downstream from Dexter Dam and reservoir. It is the closest of the project areas to a federally licensed hydropower dam.

- **Help protect or enhance natural ecosystems and species diversity over the long term.**

The selection of the current project areas was based, in part, on the current condition of the physical properties of the site which allow for the persistence of ecosystems and species diversity. These properties include the configuration, adjacent ownership, access, water supply and regime, condition of the habitats, size, threats, exotic species and other factors which influence the function of ecosystem processes.

- **Complement the activities of the region's state and federal wildlife agencies and Indian tribes.**

The project areas selected for inclusion into this program were nominated, prioritized and supported by the OWC. In addition, the project level management activities are coordinated with the U.S. Fish and Wildlife Service and other land management entities. Some of the goals of the Willamette Basin Mitigation Program shared by other regional fish and wildlife agencies and tribes include 1) promoting regional/landscape biological diversity; 2) maintaining consistency with the Power Council Fish and Wildlife Program; 3) assisting BPA in meeting their wildlife mitigation obligations in a cost-effective manner; 4) minimizing expenditures on mitigation planning and maximizing on-the-ground mitigation, enhancement, and protection of wildlife habitats.

- **Encourage the formation of partnerships with other persons or entities, which would reduce project costs, increase benefits and/or eliminate duplicative activities.**

Partnerships have been developed with many entities and individuals during previous phases of the program. These include: Lane County Parks, Oregon State Parks and Recreation Department, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, City of Springfield, Willamalane Parks and Recreation, Mt. Pisgah Arboretum, Springfield Utility Board, McKenzie Watershed Council, McKenzie River Trust, Eugene Water and Electric Board, Friends of Buford Park and Mt. Pisgah, The Nature Conservancy, Corvallis Greenbelt Land Trust, and numerous private landowners. All of these entities and individuals have donated their time and in some cases their lands for the purposes of developing and implementing mitigation activities. This has resulted in a far more cost effective program, locally accepted, and less duplicative project than one without the input of stakeholders. Future activities of the program will expand the contribution of current partners to include joint funding of enhancement activities and donation of equipment and supplies. New partnerships will be developed with other interested or affected parties.

Other partnerships and collaboration occurs routinely with the related BPA-funded projects in the basin. Please see Relationship to Other Projects section for further discussion.

c.Relationships to other projects

The Oregon Trust Agreement Planning Project 92-84, Assessing Oregon Trust Agreement Using GAP Analysis 95-65, and Securing Wildlife Mitigation Sites-Oregon 9705900 are the pre-planning and planning projects upon which the identification and selection of mitigation projects in the Willamette basin and other Columbia tributary basins are based. Currently there are two project sites in the FY 99 proposal for Securing Wildlife Mitigation Sites-Oregon which have been coordinated through this program.

Burlington Bottoms 9107800 is a project managed by ODFW in the Willamette basin. It was the first site specific project implemented in the state of Oregon. This project is currently in the implementation and operations and maintenance phases. The enhancement work being undertaken on the site provides for an experimental laboratory within which multiple techniques are used to further the understanding of Willamette and lower Columbia wetland systems. The methods found to be most effective will be used on similar sites in the throughout the basin. HEP activities, enhancement measures, general project management, staff time and equipment are shared and collaborated between this project and the Willamette program.

Securing Wildlife Mitigation Sites in Oregon-Multnomah Channel 9705908 was proposed and accepted for funding in FY 1999. The project area is located on the lower Willamette River a few miles downstream of the Burlington Bottoms project area. Metro, the project sponsor, is actively acquiring lands in an 1100 wetland complex that includes Burlington Bottoms. Lands in the upper watershed are being pursued to secure water and habitat quality and continuity. Acquisition, restoration and enhancement activities are coordinated and often jointly undertaken. Information and knowledge is shared between this project, Burlington Bottoms, and the Willamette Basin Mitigation Program.

Amazon Basin/Eugene Wetlands-Phase II 9205900 is the second mitigation project to be implemented in the Willamette basin. It is administered by The Nature Conservancy (TNC). The Willamette program has coordinated with TNC with emphasis on enhancement and restoration prescriptions and techniques, habitat type indexing and qualification, general land management actions and acquisition activities. This collaboration has provided useful information sharing which has reduced project duplication and increased the likelihood of success of both projects. While time constraints did not allow for a joint project proposal to be developed for FY 2000 it is likely that this will occur for the FY 2001 process. The project manager is an active member of and contributor to the Technical Advisory Group which is developing site specific restoration plans for the Willamette Basin Mitigation Program Middle Fork and Coast Fork Willamette project area.

Securing Wildlife Mitigation Sites in Oregon-McKenzie River Islands 9705906 was first proposed and recommended for funding in FY 1999. This project began the implementation of protection measures on 50 acres of a 250 low elevation McKenzie River riparian, riverine, and deciduous forest island habitat complex. Through the cooperative actions of the Springfield Utility Board, McKenzie River Trust and Oregon Department of Fish and Wildlife the property will be secured from a private party. The deed for the property will be held by the McKenzie River Trust following work completed in FY 1999. This project is immediately adjacent to 100 acres of the island which is being purchased as one activity of the FY 1999 Willamette Basin Mitigation Program approved last year.

Securing Wildlife Mitigation Sites in Oregon-E.E. Wilson WMA Additions 9705907 was proposed and recommended for funding in FY 1999. This project began the implementation of protection measures on 200 acres of a 270 wetland and stream confluence area of Winter Creek and Soap Creek, tributaries of the Luckiamute River. Negotiations with the landowner are occurring during FY 1999. This project is immediately adjacent to 70 acres of the wetland complex which is being purchased as one activity of the FY 1999 Willamette Basin Mitigation Program approved last year. The securement of both properties will provide the necessary flexibility to restore and manage the hydrologic aspects of the wetland. The composite project area is adjacent to a 200 acre conservation easement.

McKenzie River Focus Watershed Coordination 9607000 is an on-going project in the basin which has and will continue to provide focus and coordination for the fish and wildlife mitigation activities occurring in this most important watershed of the Willamette. Coordination with this project, to date, has provided a prioritization of

potential enhancement and acquisition sites in the watershed. Two of the most highly ranked sites are included in this project proposal and the Securing Wildlife Mitigation Sites-Oregon project.

Bull Trout Assessment-Willamette/McKenzie 9405300 is an on-going Resident Fish project which will continue to provide valuable information to the mitigation efforts in the McKenzie River in particular. The data will be useful in other tributaries of the Willamette where bull trout occurred historically (eg. Upper Middle Fork Willamette project area). Prescriptions developed may be tested at various mitigation sites throughout the basin. Objectives and tasks which provide for increased habitat quality or fish production will be incorporated into site specific management plans for the McKenzie and upper Middle Fork Willamette project areas.

Securing Wildlife Mitigation Sites in Oregon-Tualatin River Refuge Additions 9705916 proposed and approved for funding consists of securing, restoring and managing lands within a newly established refuge to protect and enhance fish, wildlife and water in the Tualatin River watershed. Information and knowledge has been shared and coordinated between this project and the Willamette Basin Mitigation Program.

d.Project history (for ongoing projects)

The Oregon Department of Fish and Wildlife (ODFW) has been conducting wildlife mitigation projects and activities in the Willamette Basin under the auspices of the NW Power Planning Council's (Council) Fish and Wildlife Program funded by the Bonneville Power Administration since 1993. Past and current phases of the Willamette Basin project include the *Willamette Basin Western Pond Turtle Research* 92-068 from 1993-1996, *Willamette Basin Mitigation* 9206800 Phase I, II, and III in 1997, 1998, and 1999, representing pre-project planning and design, site specific planning and implementation, and implementation, respectively.

Prior efforts have focused on the preliminary study and planning aspects necessary prior to the implementation of land acquisition and enhancement strategies. Phase III of the Willamette Basin Project is moving the project from the planning phase to the implementation phase. Multiple focus areas have been selected in the watershed based on their mitigative potential, restoration and enhancement opportunities, existing habitat conditions, and the role each area may play in the formulation and implementation of a basin wide restoration strategy. Many partnerships have been developed with organizations and groups that have management interests or mandates within the focus areas.

The current list of Willamette basin project sites was solicited, compiled and analyzed during two previous BPA projects. The BPA GAP project developed a series of databases and Geographic Information System (GIS) data layers which were used to evaluate potential mitigation projects by the Oregon Wildlife Coalition (OWC). A suitability analysis combined with the findings of the OTAP was used to determine which projects were suitable for BPA mitigation and which remaining projects could be implemented in the near future. Multiple queries of landscape level GIS data were conducted as part of the GAP analysis portion of the project. The results characterize the potential contribution to FWP mitigation target species and habitats. The role a project could play within the context of a conservation plan was determined also. (For additional information about the project selection process please see section 8a. of this proposal or refer to the Securing Wildlife Mitigation Sites in Oregon-Umbrella project proposal)

1993-1994

The *Willamette Basin Western Pond Turtle Research* 92-068 project was initiated in the confluence of the Middle Fork Willamette River and Coast Fork Willamette River project area (Confluence). Initial work included identification of population estimates, distribution, age structure, and important aquatic habitat areas. In 1993 and 1994 the inventory and mapping of these parameters was extended to potential mitigation sites, with focus on western pond turtle, throughout the Willamette basin. The resultant reports included most notably; *The Western Pond Turtle: Habitat and History*, Dr. Dan Holland, U.S. Department of Interior, August 1994. This document represents the first comprehensive evaluation of western pond turtles and their habitat and a management strategy for protecting wetlands through mitigation activities.

1995-1997

Intensive trapping, marking, and monitoring of western pond turtles was conducted between spring 1995 to spring 1997 to assess the population distribution, size, habitat use, nesting habitat and overwintering habitat within the Confluence study area. From these studies a master's thesis was completed at the University of Oregon and an

internship and paper were completed by another student at Antioch University of New Hampshire (Burell 1996; Cowie 1997). The documents were and are used in the selection of acquisition and enhancement sites and activities. A geographic information system (GIS) was developed for the project area and it includes various geographic, administrative, physical, and biological data sets which have been and continue to be used for project planning and implementation. An hydrologic study of the area using a graduate student through Oregon State University Geosciences Department was completed for the entire Confluence project area (Rodgers 1997). A report documenting the HEP activities and results for the entire project area was generated (ODFW 1997b). A report outlining the recommendations of the HEP Team and Alternatives Team for habitat enhancement and acquisition was written (ODFW 1997c). A master's thesis describing the history of the Confluence area was completed at the University of Oregon (Booker 1997). An assessment of current land ownership, condition and interest in the project was conducted with public and private landowners. The result was multiple public land management entities approved the inclusion of their land in the Willamette Basin Mitigation Program.

1998

Phase III of the Willamette Basin Project marked the change from the planning phases of I and II to the implementation phase in the Middle Fork and Coast Fork Willamette River confluence area. Additionally, new focus areas were selected in the valley based on their mitigative potential, restoration and enhancement opportunities, existing habitat conditions, and the role each area may play within the Willamette basin strategy. New partnerships were developed with the McKenzie Watershed Council, McKenzie River Trust, and Eugene Water and Electric Board and existing partnerships were enhanced. A graduate student began a master's thesis from Oregon State University for developing a prototype desktop GIS used for watershed planning, restoration, and monitoring. Multiple private land parcels were identified for acquisition, easement and enhancement measures. A 44 acre parcel was secured through a cooperative arrangement with River Network. New target areas for acquisition and enhancement were identified in the lower McKenzie River and the E.E. Wilson Wildlife Management Area. Landowner interest was determined and preliminary discussions began regarding acquisition, easement and enhancement strategies. HEP sampling and NEPA surveys were begun on the McKenzie River and E.E. Wilson project areas. HEP and NEPA activities were completed on the 44 acre acquisition site in the Middle Fork and Coast Fork Willamette River project area.

1999

Negotiations began with BPA to develop a Memorandum of Agreement for the acquisition of lands and crediting of habitat units. An interdisciplinary group of natural resource specialists and land managers was formed to develop site specific management prescriptions from the Alternatives Team Report. This Technical Advisory Group (TAG) will be responsible for the implementation of some enhancement measures. Photo points were established to track seasonal changes and enhancement activities. Non-native scotch broom and Himalaya blackberry intrusions were removed from a portion of the Middle Fork and Coast Fork Willamette River project area. Hydrologic data is under compilation and review to determine the costs and success of restoring water to historic river channels. The title to the 44 acre parcel was transferred from River Network to BPA. New acquisition and enhancement target areas were identified. They include the Upper Middle Fork Willamette River and Muddy Creek and Mary's River confluence project areas. HEP work and NEPA surveys will be completed at the McKenzie River and E.E. Wilson project areas. Acquisition activities will secure The Pre-settlement Willamette Valley Vegetation Map will be completed for the remaining portions of the Willamette and lower Columbia River watersheds. An assessment of past and present hydro-geomorphic condition with an index to fish and wildlife habitats will be completed. This task will provide a tool used to gauge the effectiveness and determine the feasibility of proposed habitat enhancement projects in the Willamette basin.

e. Proposal objectives

Middle Fork and Coast Fork Wilamette River project area

Objectives- 1 Continue implementation of habitat enhancement of wetlands, historic river channels, and riparian forest habitats in the south

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Outcome - Approximately 225 - 300 HUs to be applied to habitat deficits at Dexter, Lookout Point and Hills Creek dams and reservoirs

2 Conduct NEPA surveys on private lands

Outcome -A measure of the proposed enhancement activities' compliance with NEPA

- 3 Conduct NEPA surveys on the 250 acres of public lands identified on the north bank of the Middle Fork Willamette River in the Alternatives Team report

Outcome - A measure of the proposed enhancement activities' compliance with NEPA

- 4 Begin monitoring and evaluation of the results of enhancement measures applied to the south pasture and 44 acre parcel during FY

1999

Outcome - Documentation of successful methodologies and opportunity for adaptive management to guide future activities

Upper Middle Fork Willamette River project area

- Objectives
- 1 Conduct HEP and NEPA surveys on 190 acre riparian, riverine and wetland properties

Outcome-Determination of actual HU credit for BPA and compliance with NEPA.

- 2 Begin negotiations with private landowners to secure option or conservation easement status to protect existing habitat values

Outcome-Once secured the property is estimated to provide 170-220 HUs to be credited to Dexter and Lookout Point reservoirs

- 3 Develop pre-liminary habitat enhancement plan with Oregon Parks

and Recreation

Outcome-A draft enhancement plan to guide initial stabilization and restoration activities

McKenzie River project area

- Objectives
- 1 Using existing species and habitat data from the FY 1999 project activities develop habitat restoration and enhancement plan

Outcome-A plan for fish and wildlife habitat enhancement which meets NEPA requirements

- 2 Perform hydrologic analysis of property to determine feasibility and risks associated with increasing flows in island channels

Outcome-An estimate of increased fish and wildlife habitat quality, risk assessment and cost/benefit analysis of restoring hydrologic connectivity

- 3 Implement non-native reed canary grass, scotch broom and Himalaya blackberry removal

Outcome-Preparation of approximately 20 acres for restoring native plant communities

E.E. Wilson WMA project area

Objectives	1	Using existing species and habitat data from the FY 1999 project activities develop habitat restoration and enhancement plan	
		<i>Outcome</i> -A plan for fish and wildlife habitat enhancement which meets NEPA requirements	
	2	Perform hydrologic analysis of property to determine feasibility and risks associated with removal of fish passage barriers including small reservoir	
habitats		<i>Outcome</i> -An estimate of increased fish and wildlife habitat quality, risk assessment and cost/benefit analysis of restoring hydrologic functions to the riverine and wetland	
	3	Prepare site and plant native tree species along riparian area of Soap Creek and Winter Creek	
		<i>Outcome</i> -A first step towards the recovery of the degraded riparian plant community	

Muddy Creek and Mary's River confluence project area

Objectives	1	Conduct HEP and NEPA surveys on the 220 acre riparian, riverine and wetland property	
		<i>Outcome</i> -Determination of actual HU credit for BPA and compliance with	NEPA require
	2	Begin negotiations with private landowners to secure option or conservation easement status to protect existing habitat values	
		<i>Outcome</i> -Once secured the property is estimated to provide 300 HUs to be credited to Foster and Green Peter reservoirs.	
	3	Develop pre-liminary habitat enhancement with Corvallis Greenbelt	Land Trust an
		<i>Outcome</i> -A draft enhancement plan to guide initial stabilization and restoration activities	

f. Methods

In general, the methods used during the past phases of the project rely upon the newest forms of wildlife sciences such as Restorative Ecology, Conservation Biology, Landscape Ecology, and multi-scale planning and modeling using GIS data. Often these methods select mimicry, replication, and massage of natural features and processes rather than the traditional creation of habitat conditions irrespective of natural tendencies of the land (Forman and Gordon 1986, Harris 1984). The first step towards implementing habitat improvement activities using the techniques mentioned involves a thoughtful inventory of existing information (Scott 1994). Compilation of this information in a form which is flexible and uniform for all data usually involves the use of a GIS. In this format desired future conditions and possibilities can be analyzed and portrayed (Machlis et. al. 1994, Scott et. al. 1994). Upon selection of a scenario for achieving the desired condition the project proponents will normally use a wait-and-see approach for a growing season or two. This allows for not only a potential reduction of cost but also the use of adaptive management techniques from the beginning. When factors which degrade habitat conditions are halted or removed from a system there is often a corresponding recovery which may increase habitat values (HUs) without manipulation. These are the fundamentals of passive restoration which the project proponents have chosen as a preferred method (Kauffman et.al. 1997).

Work will be undertaken with Oregon State Parks and Recreation, Division of State Lands, Bureau of Land Management, Forest Service, Army Corps of Engineers, and other land managers in the basin to develop management prescriptions which compliment BPA mitigation activities. If necessary, to expedite mitigation

activities, additional MOA/MOU with BPA and other governmental agencies will be developed. As successfully demonstrated by state and tribal mitigation programs, the use of acquisition, easement, and cooperative management plans will be used to achieve mitigation goals in the basin. Enhancement of habitats for target species will continue to use public and private lands for flood plain restoration and terrestrial habitat improvements. Coordination through consultation, information sharing, and cooperation with partners & interested parties will continue to be a fundamental and prevalent aspect of the program. The project will continue to develop and assemble data and other information useful to mitigation and habitat improvement efforts. The findings will be applied in an adaptive management manner to the project. Also, the information which proves useful to other resource professionals, agencies, and organizations will be distributed by papers, presentations, the Internet, and reports.

HEP analysis activities will be conducted on all project lands to determine the baseline and future habitat values following methods outlined by the NWPPC FWP and USFWS HEP models (NPPC 1994, Interior 1980). Additional data will be collected, compiled, modeled, and analyzed for each project area utilizing multi-scale digital data in a GIS which has been developed during past efforts of the project (ODFW 1997a). The GIS will also be used to enhance the HEP data through the use of digital photography, vegetation, species, and geomorphological data. Assistance will be provided to the CBFWA WWG when developing site potential and other modeling techniques for use throughout the Columbia basin.

Middle Fork and Coast Fork Willamette River project area

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|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Objective 1 | Task a-Conduct any species fish and wildlife surveys to determine if modifications to planned enhancement activities are necessary
Task b-Remove artificial structures preventing river flows into historic channels.
Task c-Remove cattle from areas where vegetative plantings will occur
Task d-Remove non-native vegetation in areas where native plant communities are desired
Task e-Plant native tree species and in some cases shrubs and forbs using information derived from Objective 4 and related projects (see Relationships with other projects section)
Task f-Develop partnerships include cost-sharing and identify additional funding sources for enhancement activities |
| Objective 2 | Task a-Develop necessary agreements to work on private lands
Task b-Coordinate and assist with Cultural Resource surveys
Task c-Coordinate and assist with Hazardous Materials surveys
Task d-Coordinate and assist with Threatened, Endangered, and Sensitive species surveys
Task e-Evaluate potential enhancement measure using Programmatic Wildlife EIS NEPA checklist |
| Objective 3 | Task a-Develop necessary agreements to work on public lands
Task b-Coordinate and assist with Cultural Resource surveys
Task c-Coordinate and assist with Hazardous Materials surveys
Task d-Coordinate and assist with Threatened, Endangered, and Sensitive species surveys
Task e-Evaluate potential enhancement measures using Programmatic Wildlife EIS NEPA checklist |
| Objective 4 | Task a-Continue use of photo point monitoring and quantify results
Task b-Evaluate the first year success of tree and shrub species planted during FY 1999
Task c-Correlate planting and cultivation methodology with vegetation survivability
Task d-Correlate micro-site deviations with vegetation survivability
Task e-Correlate age class and species with vegetation survivability
Task f-Determine wildlife species use if any in this first year
Task g-Apply any information which will improve success of Objective 1 |

gained Task h-Collaborate with other related projects and share information and knowledge

Upper Middle Fork Willamette River project area

Objectives 1 Task a-Map vegetation and habitat types found on the project lands
 Task b-Determine species use through surveys or ancillary information
 Task c-Formulate HEP Team
 Task d-Select HEP species models based on habitat type and current or future species use
 Task e-Conduct HEP field sampling
 Task f-Compile HEP data, incorporate into the GIS and produce report
 Task g- a-Develop necessary agreements to work on private lands
 Task h-Coordinate and assist with Cultural Resource surveys
 Task I-Coordinate and assist with Hazardous Materials surveys
 Task j-Coordinate and assist with Threatened, Endangered, and Sensitive species surveys
 Task k-Evaluate potential enhancement measure using Programmatic Wildlife EIS NEPA checklist

Objective 2 Task a-Participate in discussions with local land trust and private landowners
 Task b-Develop necessary agreements to secure option or easement with objective of permanent protection for fish and wildlife
 Task c-Conduct site visits
 Task d-Evaluate the inclusion of the properties with the adjacent 800 acre state park lands

Objective 3 Task a-Facilitate meetings with stakeholders including Oregon Parks and Recreation Department, U.S. Army Corps of Engineers, and private landowners.
 Task b-Develop goals, objectives and preliminary strategies for habitat improvement specifically for Oregon chub, spring chinook salmon, western pond turtle and red-legged frog
 Task c-Produce document outlining preliminary enhancement alternatives

McKenzie River project area

Objectives 1 Task a-Identify degraded habitats and limiting factors to natural system functions
 Task b-Determine current use of side-channel habitats by cutthroat trout and western pond turtle
 Task c-Identify locations and enhancement measures for improving channel habitat
 Task d-Identify location and enhancement measures for western pond turtle nesting area(s)
 Task e-Select a range of alternative techniques for improving habitat conditions and removal of limiting factors
 Task f-Evaluate potential enhancement measures using Programmatic Wildlife EIS NEPA checklist

Objective 2 Task a-Consult existing hydrologic data for the McKenzie River and the project area
 Task b-Conduct detailed elevational surveys and map key features such as upper and lower ends of channels, constrained areas, dwellings and improvements and existing wetlands
 Task c-Review historic data to determine periodicity and frequency of inundation
 Task d-Evaluate potential future condition and improvement to fish and wildlife habitat
 Task e-Develop risk analysis

Task f-Develop cost/benefit analysis
 Task g-Determine whether a more detailed hydrologic analysis is necessary if enhancement appears feasible

- Objective 3 Task a-Remove or discourage non-native vegetation through inundation, shading and removal by hand
 Task b-Where intrusions are too severe remove with equipment
 Task c-Evaluate the potential impact of herbicides and effectiveness of biological controls
 Task d-Apply herbicides if necessary
 Task e-Remove vectors such as roads, fill and re-vegetate disturbed areas

E.E. Wilson WMA project area

- Objectives 1 Task a-Identify degraded habitats and limiting factors to natural system functions
 Task b-Determine current use of Soap Creek and Winter Creek and associated riparian areas by cutthroat trout, spring chinook salmon, western pond turtle and red-legged frog
 Task c-Identify locations and enhancement measures for improving channel habitat
 Task d-Identify location and enhancement measures for riparian forest areas
 Task e-Identify location and enhancement measures for permanent and seasonal wetlands
 Task f-Select a range of alternative techniques for improving habitat conditions and removal of limiting factors
 Task g-Evaluate potential enhancement measures using Programmatic Wildlife EIS NEPA checklist
- Objective 2 Task a-Consult existing hydrologic data for Soap Creek and Winter Creek if available
 Task b-Review engineering data for the reservoir and survey topography of key downstream wetland features
 Task c-Review historic data to determine periodicity and frequency of inundation
 Task d-Evaluate potential future condition and improvement to fish and wildlife habitat
 Task e-Develop risk analysis
 Task f-Develop cost/benefit analysis
 Task g-Determine whether a more detailed hydrologic analysis is necessary if enhancement appears feasible
- Objective 3 Task a-Remove non-native vegetation which will compete with planted stock
 Task b-Evaluate previous techniques for planting on this site and the Middle Fork and Coast Fork Willamette River project area and related projects
 Task c-Treat site based on information gained in Task b
 Task d-Set-up photo points and other monitoring techniques to evaluate success

Muddy Creek and Mary's River confluence project area

- Objectives 1 Task a-Map vegetation and habitat types found on the project lands
 Task b-Determine species use through surveys or ancillary information
 Task c-Formulate HEP Team
 Task d-Select HEP species models based on habitat type and current or future species use
 Task e-Conduct HEP field sampling

Task f-Compile HEP data, incorporate into the GIS and produce report
 Task g- a-Develop necessary agreements to work on private lands
 Task h-Coordinate and assist with Cultural Resource surveys
 Task I-Coordinate and assist with Hazardous Materials surveys
 Task j-Coordinate and assist with Threatened, Endangered, and
 Sensitive species surveys
 Task k-Evaluate potential enhancement measure using Programmatic
 Wildlife EIS NEPA checklist

Objective 2 Task a-Participate in discussions with local land trust and private landowners
 Task b-Develop necessary agreements to secure option or easement with
 objective of permanent protection for fish and wildlife
 Task c-Conduct site visits
 Task d-Evaluate the exclusion of the high value farm land and use cost
 savings to invest in adjacent riparian properties

Objective 3 Task a-Facilitate meetings with stakeholders including Corvallis Greenbelt
 Land Trust, U.S. Fish and Wildlife Service, and private landowners.
 Task b-Develop goals, objectives and preliminary strategies for habitat
 improvement specifically for Oregon chub, cutthroat trout, western
 pond turtle, waterfowl and red-legged frog
 Task c-Produce document outlining preliminary enhancement alternatives

g. Facilities and equipment

No new facilities are anticipated to be necessary at this time. Existing facilities of the project implementers and cooperators will be used to minimize cost and increase efficiency. Existing equipment will also be used to the maximum extent practical. This includes vehicles, farm equipment, and computers. There will likely be a need to upgrade these items as they wear out or become obsolete. Upgrades will include software and hardware for computers, new vehicles when necessary, and specialized equipment which would increase the efficiency of project implementation. At some point facilities in less accessible locals may be important. Additionally, a computer workstation may be needed for assembly, analysis, and distribution of project data and information.

h. Budget

Personnel cost are the single largest expense of the budget at \$100,000. This is a result of the fact that personnel are necessary to implement the activities and the abundant reliance on cost savings techniques such as partnering and cost/benefit analyses. When compared with the overall non-BPA budget the cost are more fully understood. The number represents a project leader salary, three temporary staff, and occasional part-time and seasonal staff.

The benefits @ 38% is a standard state government rate.

The second single largest budget item is the supplies and services portion which indicates the Program's emphasis towards implementation. It should be noted that \$30,000 of the \$70,000 are monies proposed for enhancements on the Securing Mitigation Sites in Oregon-McKenzie River Islands and E.E. Wilson WMA. This is not intended to be duplicative. The project are inextricably linked to the goals, objectives, tasks, and actions under the Willamette Basin Mitigation Program and therefore is shown here. The total amount of this line item would be split into enhancement costs such as vegetation supplies, equipment, seeds, hardware, hydrologic analysis, equipment rental or if necessary purchase, some office materials, etc..

The line item for option monies totals \$2,000. It is assumed that \$1,000 for each property will be sufficient to hold the land on an interim basis.

NEPA costs have been estimated to be \$5,000 for each project area by BPA. It is anticipated that those costs may be lower since the project areas are similar in nature and located near each other.

The overhead rate for ODFW is 35.5% for some of the budget items. Overhead will not be applied to other line items such as NEPA costs.

Section 9. Key personnel

Key personnel include the project leader, a GIS analyst, a field surveyor, and occasional ODFW biologists. All of these individuals are classified in the state professional series for governmental employment. All staff meeting state requirements for their respective positions.

Only that experience directly relating to the Program is listed. Greg Sielgitz has been a wildlife biologist for 9 years-7.5 years with the ODFW and 1.5 years with the USFWS and OSU.

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Education:

Oregon State Univ., Corvallis, Oregon. Bachelor of Science, Wildlife Science, 1990.

Oregon State Univ., Corvallis, Oregon. One year of Master of Science Program.

Department of Geosciences, 1994-1995.

Professional Experience:

10/95 to **Oregon Department of Fish and Wildlife, Corvallis, Oregon**
present Wildlife Diversity Program-Assistant Staff Wildlife Biologist
Project leader for two Bonneville Power Administration Mitigation
Projects: - Willamette Basin Mitigation Program.
-Assessing Oregon Trust Agreement Planning Project Using GAP Analysis.
Project leader for statewide Spotted Owl, Marbled Murrelet and Western
Pond Turtle databases.
Performed duties of agency liaison and spokesperson representing ODFW
at regional Wildlife Working Group, Columbia Basin Fish and Wildlife
Authority, Oregon Wildlife Coalition, and other meetings.
Facilitator of Oregon Wildlife Coalition, BPA GAP Analysis, and

Willamette Valley Mitigation meetings.

Coordinated Habitat Evaluation Procedures and Alternatives Team processes. Authored reports, managed budgets, developed contracts, hired and supervised, and gave presentations.

GIS, GPS, and multiple computer programs for manipulating, analyzing, and portraying data.

Section 10. Information/technology transfer

A brochure is currently being developed as an interface for private citizens, cooperators, and interested landowners.

At least one workshop will be held to solicit input and provide a forum for coordination between agency and organization personnel involved in habitat restoration and enhancement in the basin. The digital data and products developed will be available through BPA and by way of Web pages.

The presettlement and current vegetation mapping and other useful data will be available in hard copy and digital form.

Multiple reports and written documents will also be developed and distributed via BPA and the Internet.

Congratulations!